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Cotton Variety Tests, 1918

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Plowing. The land on which the cotton varieties were grown in 1918 is a red, sandy loam (Cecil sandy loam). A crop of oats followed by cowpeas occupied the land the previous year. The peas were plowed under in the fall and the area was left rough for freezing and thawing to break up and mellow. In early spring, the area was double cut with a disk harrow, and on March 18, 500 pounds of 16 per cent acid phosphate and 100 pounds of 20 per cent sulphate of ammonia was applied broadcast. The rows were immediately laid off four feet apart, and the beds were made with a one horse Planet Junior and subsequently settled by several hard rains.

These varieties were planted at the rate of one bushel of seed per acre on April 10. There was sufficient moisture in the soil to produce immediate germination and a perfect stand was obtained, but several cold, rainy days prevented rapid growth of the young plants for about ten days. Cultivation began as soon as the weather would permit, and this, together with subsequent favorable seasons, induced rapid growth which continued throughout the season.

Table 1 shows the rank of thirty-eight varieties tested at the College this season in the order of total yield of lint cotton produced per acre.

The cotton growers in boll weevil infested areas should not attach much importance to the total yield of these varieties since they are produced under conditions which permit continuous growth and maturity of bolls until frost. The farmers who are producing cotton under boll weevil conditions are most interested in the earliness of the varieties, and this is best indicated by the amount of cotton produced at first and second pickings combined, which is the total production five months and four days from date of planting. The column headed "Percent of Average Crop Harvested at First and Second Pickings" shows the relative earliness of the different varieties when compared with the total average yield of all the varieties. College No. 1, for instance, matured at this time 106.2 per cent of an average crop. In other words, the total average production of all

TABLE 1—Showing results of cotton variety test on College demonstration field, 1918, when ranked according to total yield of lint per acre.

Rank	Name of Variety	Yields, calculated on acre basis						Per Cent of Av. Crop Harvested 1st and 2nd Pickings	Bolls to Pound of Seed Cotton	Length of Lint in 16th of Inch	Per Cent Lint	Lint Index	Bolls to Pound of Lint Cotton
		1st Picking Aug. 26	2nd Picking Sept. 14	3rd Picking Oct. 7	4th Picking Nov. 14	Total Yield Seed Cotton	Lint						
1	College No. 1	975	882	518	56	2431	972	106.2	58	17	40	8.50	145
2	Wanamaker's	202	712	978	196	2088	877	52.3	60	14	42	7.25	142
3	Dixie	85	619	925	297	1926	809	40.2	63	16	42	7.75	152
4	Brown's No. 1	229	608	978	149	1964	845	47.9	57	14	43	8.35	132
5	Steinheimer's	202	661	1041	204	2108	833	49.3	58	16	39.5	8.25	146
6	Hooper's	192	661	988	233	2074	809	48.8	71	16	39	7.25	182
7	College No. 2	602	882	532	56	2072	808	84.9	60	17	39	8.40	153
8	Express 412	298	606	818	339	2051	800	51.7	84	17	39	6.39	215
9	Fowler's	106	542	1041	160	1849	740	37.0	58	16	40	7.25	145
10	Meadow's	159	589	1028	255	2031	731	42.8	68	17	36	7.50	188
11	Piedmont	255	776	701	114	1846	720	59.0	58	17	39	7.35	148
12	Council Toole	160	595	786	244	1785	714	43.2	71	16	40	6.25	177
13	Summerour's	149	499	595	181	1424	712	37.0	62	12	50	7.00	124
14	Child's Toole	85	446	861	297	1689	709	29.8	75	14	42	6.30	178
15	Culpepper's	170	606	903	181	1860	707	44.4	59	16	38	6.25	155
16	Brown's No. 2	134	446	786	329	1695	678	33.1	53	15	40	7.30	132
17	William's	106	457	1009	213	1785	669	32.2	53	17	37.5	8.25	141
18	Brown's No. 1	192	585	712	181	1670	668	44.4	70	16	40	7.30	175
19	DeSoto	159	449	946	383	1937	661	34.8	73	19	36	6.25	202
20	Lewis 63	181	640	807	181	1809	642	46.9	65	17	35.5	5.75	183
21	Texas Burr	181	648	786	134	1749	630	47.4	55	15	36	7.50	152
22	Sunbeam	149	468	850	191	1658	630	35.5	53	16	38	7.25	139
23	Mexican	170	585	638	159	1552	621	43.2	65	15	40	7.25	162
24	Webber 49	107	404	893	181	1585	618	29.2	70	18	39	8.25	179
25	Lone Star	303	425	754	289	1771	602	41.6	68	17	34	7.75	200
26	Rexall	107	446	816	245	1614	589	31.6	81	14	36.5	5.86	221
27	Poulnot	96	510	722	181	1509	589	34.6	67	16	39	8.52	171
28	Petway's	212	350	808	127	1497	584	32.1	76	16	39	5.50	194
29	Utopia	85	308	861	197	1451	580	22.4	71	17	40	8.40	177
30	Dixafi	138	446	866	234	1684	573	33.4	75	20	34	5.20	220
31	Cook's	101	404	712	212	1429	572	28.9	70	14	40	7.50	175
32	Trice	276	531	755	115	1677	570	46.1	67	16	34	7.25	197
33	Caldwell	138	563	736	112	1549	558	40.1	67	17	36	8.30	158
34	Livsey's	106	552	755	165	1578	552	37.6	65	17	35	7.00	185
35	Mexican S. C.	170	521	585	138	1414	530	39.5	56	18	37.5	8.35	149
36	Foster 120	245	382	659	266	1552	528	35.8	67	19	34	6.50	197
37	" 120-449	245	325	616	213	1409	479	33.1	59	24	34	6.50	173
38	Meade	65	387	720	432	1604	465	25.8	68	26	29	5.50	253
	Average	199	540	802	206	1747	668	42.3	65	16.7	32.2	7.24	171

TABLE 2—Showing cotton varieties tested on College demonstration field, 1918, in order of total value of crop produced when yield and value of both seed and lint are considered.

Rank	Name of Variety	Total Yield Seed Cotton	Yield Lint	Value Lint	Weight of Seed	Per Cent Oil in Seed	Total Pounds Oil Per Ton	Value of Seed per Ton	Value of Seed Produced	Total Value of Crop
1	*Meade - - -	1604 465	\$325.50	1139	23.13	439	\$81.30	\$46.30	\$371.80	
2	College No. 1	2431 972	291.60	1459	19.30	367	68.58	50.01	341.61	
3	Wanamaker's	2088 877	263.01	1211	17.91	340	63.54	38.17	301.47	
4	Brown's No. 4	1964 845	253.50	1119	20.13	383	71.55	40.03	293.53	
5	Steinheimer's	2108 833	249.90	1279	18.60	353	65.71	42.52	292.42	
6	Express 412 -	2051 800	240.00	1251	20.82	395	73.82	46.17	286.17	
7	Hooper's - -	2074 809	242.70	1265	19.38	368	68.77	43.46	286.16	
8	College No. 2	2072 808	242.40	1264	19.04	362	67.64	42.75	285.15	
9	Dixie - - -	1926 809	242.70	1117	20.92	397	74.18	41.53	284.13	
10	*Weaver 49 -	1585 618	247.20	967	21.40	407	76.06	43.78	283.98	
11	*Lone Star -	1771 602	240.80	1169	19.77	375	70.07	41.33	282.13	
12	*Dixie - - -	1684 573	229.20	1111	20.80	395	73.80	49.09	270.19	
13	Meadow's - -	2031 731	219.30	1300	20.04	381	71.20	46.28	265.58	
14	Fowler's - -	1849 740	222.00	1109	19.06	362	67.65	37.51	259.51	
15	Piedmont - -	1846 720	216.00	1126	18.38	349	65.22	36.72	252.72	
16	Council Toole	1785 714	214.20	1011	20.25	385	71.94	38.52	252.72	
17	*Foster 120 -	1552 528	211.20	1024	19.69	374	69.90	35.78	247.98	
18	DeSoto - - -	1937 661	198.30	1276	20.64	392	73.25	46.73	245.03	
19	Child's Toole	1689 709	212.70	980	18.40	350	65.40	32.05	244.75	
20	Culpepper's -	1860 707	155.10	843	20.66	393	73.44	30.95	243.05	
21	Summerour's	1424 712	213.60	712	20.96	397	74.20	26.42	240.02	
22	Brown's No. 2	1695 678	203.40	1017	19.98	380	71.00	36.10	239.50	
23	Lewis 63 - -	1809 642	192.60	1167	20.80	395	73.82	43.07	235.67	
24	Brown's No. 1	1670 668	200.40	1002	19.63	373	69.70	34.92	235.32	
25	William's - -	1785 669	270.00	1116	18.85	359	67.10	33.55	234.25	
26	Texas Burr -	1749 630	189.00	1119	19.93	379	70.84	39.73	228.73	
27	Sunbeam - -	1658 630	189.00	1028	20.57	391	73.10	37.55	226.57	
28	*Foster 449 -	1409 479	191.60	930	19.03	361	67.45	31.36	222.96	
29	Mexican - - -	1552 621	186.30	931	19.51	371	69.33	32.27	218.57	
30	Rexall - - -	1614 589	177.70	1125	22.33	424	79.22	40.60	217.30	
31	Petway's - -	1497 584	175.20	913	23.55	423	79.00	36.06	211.26	
32	Trice - - -	1677 570	171.00	1107	19.81	376	70.25	38.88	208.88	
33	Poulnot - - -	1509 589	176.70	1020	19.38	368	68.70	31.63	208.33	
34	Utopia - - -	1451 580	174.00	871	20.69	393	73.42	31.97	205.97	
35	Livsey's - -	1578 552	165.60	1026	19.78	376	70.25	36.04	201.64	
36	Cook's - - -	1429 572	171.60	857	18.88	358	66.90	28.67	200.27	
37	Caldwell - -	1549 558	167.40	991	17.69	336	62.77	31.10	198.50	
38	Mexican S. C.	1414 530	159.00	1884	23.31	443	82.68	36.49	195.49	
	Average - - -	1747 668	212.90	1079	20.07	381	71.12	38.36	151.26	

* Long-staple upland variety.

varieties for the entire season was less than the amount of cotton produced by College No. 1 at first and second pickings and indicates that more than an average crop would be produced with this variety under boll weevil conditions. With the exception of College Nos. 1 and 2, Piedmont Cleveland Big Boll, Wanamaker's Cleveland and Express 412 are the only varieties producing more than 50 per cent of an average crop at the first and second pickings.

The lint index is shown in Table 1 and is simply the amount of lint in grams ginned from one hundred seed of a given variety. This shows the abundance of lint produced and is more valuable in determining the value of a variety than the lint percentage since a change in weight of seed may materially influence the percentage of lint without increasing or decreasing the amount of lint. For instance, if two lots of 1500 pounds of seed cotton each be picked the same day and one lot ginned immediately, producing 500 pounds of lint and 1000 pounds of seed, the percentage of lint is 33 1-3. If the second lot of 1500 pounds be stored for two weeks and ginned, 500 pounds of lint would be obtained, but would leave only 970 pounds of seed due to the evaporation of moisture. This loss of thirty pounds of moisture from the seed will increase the lint percentage from 33 1-3 to 34% without changing the amount of lint.

The last column of Table 1 shows the number of bolls required to produce a pound of lint cotton. Upon multiplying these numbers by 500, the total number of bolls required to make a bale may be obtained, which is an indication of the cost of picking.

Since there is quite a difference in the quality of the lint and seed from different varieties, these should be considered as well as earliness when choosing seed for planting purposes. When the total value of the crop is considered, the variety Meade, which stands at the bottom of Table 1, appears at the top of Table 2. The lint of this variety is worth 73 cents per pound because of its superior length and quality.

The lint of other long staple, upland varieties was valued at 40 cents per pound. All other varieties produced lint of approximately one inch in length and valued at 30 cents per pound.

Table 2 also shows the difference in the value of the seed per ton produced by the varieties grown. Average seed this year contain approximately 20% oil, or 380 pounds per 1900 pounds of clean seed. The fixed price of seed in car lots is \$71.00 per ton. On this basis, seed of Caldwell's cotton, which ranks thirty-sixth in Table 2, are worth only \$62.77, or \$8.23 per ton less than average seed. On the other hand, seed of Mexican Big Boll, which ranks thirty-seventh in Table 2, are worth \$82.67 per ton, or a premium of \$11.67 per ton, thus making a difference of \$19.91 per ton in the value of the seed from these two varieties.

Oil millers have agreed to pay a premium for seed that are high in oil content when marketed in car lots. It is but fair to expect that inferior seed will be purchased at a discount. It is, therefore, to the interest of all cotton growers to consider both the value of the seed and lint produced by the variety of cotton they plant.



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